

Monitor National Marine Sanctuary

Invasive Species

Management Issue

The *Monitor* National Marine Sanctuary (MNMS or Sanctuary) was designated in 1975 to protect the wreck of the famed vessel. Since designation, the Sanctuary has started to expand its research and monitoring of resources beyond maritime heritage resources to include biological resources as well. Fundamental to this change is the basic requirements to inventory and characterize invasive species that live in and around the MNMS. With this information MNMS will be better informed and able to assess the status of invasive species living in the Sanctuary, make more informed management decisions, and take action as needed.

Description

The Monitor National Marine Sanctuary was established primarily due to its cultural resources, and the majority of the research that has been conducted has focused on those resources. As a result, there have been very few biological studies or monitoring of invasive species within the Sanctuary. It is known that invasive species are present at other national marine sanctuaries. For example, the lionfish, can be found at Gray's Reef NMS, Florida Keys NMS, and Flower Garden Banks NMSs. It is also known that these fish are found living around the shipwrecks and hard-bottom habitat off the coast of North Carolina. Because a monitoring program as not been established at MNMS it is unknown if they are present in the sanctuary. Participation of MNMS in invasive species monitoring would be beneficial to understanding invasive species, including lionfish, from a local and regional standpoint.



A Red Lionfish was identified in the Sanctuary in the summer of 2007. Photo credit: NOAA

Questions and Information Needs

- 1) What non-indigenous and invasive species can be found living in and around the MNMS?
- 2) What is the status of non-indigenous species? Is it changing?
- 3) From where are non-indigenous species coming from?
- 4) How can key non-indigenous species be controlled and prevented from becoming invasive?
- 5) What impacts are non-native species having on the resources of the Sanctuary?
- 6) What appropriate management actions need to be taken as a result of non-indigenous and invasive species?

Scientific Approach and Actions

- Accumulate scientific results from previous studies within the MNMS vicinity
- Analysis for organism classification
- Establishment of interagency relationships for research purposes

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For More Information -- <http://www.sanctuaries.noaa.gov/science/assessment>

Key Partners and Information Sources

NOAA's National Center for Coastal Ocean Science, North Carolina Aquarium, East Carolina University, Duke Marine Lab, University of North Carolina Coastal Studies Institute, NOAA Fisheries Lab (Beaufort, NC), National Marine Fisheries Service Northeast Fisheries Science Center

Sanctuary Resources Available

- Research vessel for research project
- Personnel and NOAA divers for data collection
- Partnerships with local dive centers and REEF

Resource Needs

- Financial support
- Partnerships for grant application, project design, data collection, analysis, reporting, and monitoring (NOAA, North Carolina Aquariums, dive organizations, REEF, academic institutions)

Management Support Products

- Scientific papers and reports
- Extensive list of organisms found within the sanctuary
- Reports on distribution of species
- Maps and GIS distribution models

Planned Use of Products and Actions

- Identification of key species will be used as a starting point with which to detect changes within the species and compare future results
- Appropriate management actions based on findings

Program References

MNMS Management Plan

- Resource Monitoring Action Plan

MNMS Condition Report

- What is the status of non-indigenous species and how is it changing?
- What is the status of biodiversity and how is it changing?

ONMS Performance Measures

- 3.2: Habitat Protection Performance
- 3.3: Measuring Living Resources Protection Performance

Other Documents

- *Monitor* National Marine Sanctuary State of the Sanctuary Report 2008

Cited Sources

- Nicholls, Pip. (2002). Determining impacts on marine ecosystems: the concept of key species. *Water & Atmosphere*, 10(2), 22-23.

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